

**Amendments to the Abstract:**

Please amend the abstract as follows:

~~The present invention provides a~~ A detector for detecting ~~detects~~ at least one kind of dependence in address between instructions executed by at least a processor, the detector being adopted to detect a possibility of presence of the at least one kind of dependence, wherein if the at least one kind of dependence is present in fact, then the detector detects a possibility of presence of the at least one kind of dependence, and if the at least one kind of dependence is not present in fact, then the detector ~~is allowed to~~ may ~~detect~~ a pseudo presence of the at least one kind of dependence. The detector has an execution history storing unit with a plurality of entries and an address converter for converting an address of a memory access instruction into an entry number, where different addresses may be converted into entry numbers that are the same.